

REMARKS

The last Office Action has been carefully considered.

It is noted that the claims are rejected under the judicially created doctrine of obviousness type double patenting as being unpatentable over the claims of a copending applications no. 10/112,101, 10/427,103, and 10/619,831 in view of the patent to Hlinsky.

The claims are also rejected under 35 U.S.C. 103(a) over the patent to Grube in view of the patent to Hlinsky.

In connection with the Examiner's rejection of the claims under the judicially created doctrine of double patenting obviousness type, applicant has submitted Terminal Disclaimers which disclaims those parts of a term of validity of a patent issued in this application which can be subsequent to the term of validity of the copending patent applications. It is believed that the grounds for the double patenting rejection are therefore eliminated.

After carefully considering the Examiner's grounds for the rejection of the claims over the art, applicant has amended claims 1 and 9,

the broadest washer and fastener claim, so as to more clearly define the present invention and to distinguish it from the prior art.

It is believed to be advisable to explain to the Examiner the new features of the present invention before the analysis of the prior art.

Claims 1 and 9 specifically define a washer and a fastener which are designed so as to prevent a bolt from turning and to allow only its axial displacement.

In accordance with the present invention as defined in these claims, this is achieved in special inventive, unobvious, and highly advantageous way by the means which operate in their interaction and interjunction. The third means on the first axially outer surface of the washer adapted to cooperate with a nut is formed to prevent dragging of the washer by the nut so that turning of the washer due to dragging by the nut is substantially avoided, the second means on the opposite axially outer face of the washer impede turning of the washer because of high frictional characteristics with the object to additionally eliminate the possibility of turning of the washer, and when the washer which is not dragged by the nut during turning of the nut and whose turning is additionally impeded by the friction with the object, becomes non-turnable it acts on the bolt by the first means provided on the radially inner surface of the washer to stop the bolt

from turning and to allow, exclusively, the axial displacement of the bolt. This first, second and third means of the washer operate in their interaction and interjunction to achieve the final goal: to stop the bolt from turning and to allow its axial displacement only.

Turning now to the references, and particularly to the patent to Grube, it can be seen that this reference deals with means and a method of controlling tension in a threaded member. The fastener disclosed in this reference has a bolt extending through an object and two nuts 10 and 14, wherein the nut 14 is located inside the nut 10. In accordance with the patent, during the operation of the fastener a portion 11 of the outer nut is sheared off from the portion 10 of the same. The reference does not disclose a washer at all. Both nuts 10 and 14 are displaced axially by turning on the threads of the bolt and neither one holds the bolt from turning. Therefore, the radially inner surface provided with the thread of the inner nut 14 is definitely not the radially inner surface of the washer which cooperates with the bolt so as to hold the bolt from turning. It is therefore believed that this reference does not teach a washer which has a radially inner surface adapted to cooperate with the bolt and provided with first means for stopping the bolt from turning. This reference definitely also does not disclose two other features of the present invention, namely the second means provided on the second face surface of the body of the washer to provide a friction between the body of the washer and the object to impede the body of the

washer from turning, and third means provided on the first axially outer face surface of the body adapted to cooperate with a nut with a smaller frictional characteristic to prevent dragging of the washer by the turning nut.

It is therefore believed to be clear that the patent to Grube taken singly does not teach the new features of the present invention which are now defined in claims 1 and 9.

The patent to Hlinsky discloses a clamp washer 80 in Figure 8. The clamp washer first of all is designed and operates completely different than the washer of the present invention. The clamp washer in this patent is not designed and does not operate so as to hold the bolt from turning. It is not provided with the radially inner surface which is adapted to cooperate with a bolt and has means to frictionally impede the bolt from turning. Thus, this reference does not teach this main feature of the present invention. While the clamp washer shown in Figure 8 has means 82 (roughening) to provide friction between the lower surface of the washer and the surface of the workpiece upon installation of the fastener assembly, this reference is silent about third means provided on the upper axially outer face surface of the washer adapted to cooperate with the nut, so as to reduce dragging of the washer during turning of the nut. Thus, this reference also does not teach another important feature of the present invention.

As for the combination of the references applied by the Examiner, it is believed that first of all this combination can not be considered as obvious, since the washer and the fasteners disclosed in the references have different constructions and operate on totally different principles. Even if for some unknown and highly improbable reasons a person of ordinary skill in the art would combine the references, he or she would not arrive at such a washer and the fastener, in which the washer has a radially inner surface provided with means to impede the bolt from turning, since neither the patent to Grube nor the patent to Hlinsky disclose a washer having such a radially inner surface with means provided on it for impeding the bolt from turning (neither Grube, nor Hlinsky impede the bolt from turning). Also, the combination would not lead to a washer and a fastener which, in addition to the above mentioned radially inner surface provided with the means for impeding the bolt from turning, would also have third means provided on the axially outer (upper) surface of the washer facing the nut, to reduce dragging of the washer during turning of the nut.

As explained herein above, the washer and the fastener of the present invention are designed so as to provide an interaction and interjunction of all three features, in particular the radially inner surface of the washer having means to cooperate with the bolt and to frictionally impede the bolt from turning, means provided on one axially outer face of the washer to increase friction between the washer and the object and to impede the

washer from turning, and third means provided on another axially outer surface of the washer facing the nut to reduce dragging of the washer during turning of the nut.

In view of the above presented remarks and amendments, it is believed that claims 1 and 9 should be considered as patentably distinguishing over the art and should be allowed.

Claims 17 and 18 additionally define that the body of the washer has a radially inner part provided with the radially inner surface with means to stop the bolt from turning, and a radially outer part, and the parts are formed so that the radially outer part has an axial space, and during axial displacement of the radially inner part the radially inner part moves into the axial space when it is pulled axially during elongation of the bolt. These features are also not disclosed in the references. It is respectfully submitted that these features were allowed in a copending application serial no. 10/691,831.

It is therefore respectfully submitted that claims 17 and 18 should be considered as patentably distinguishing over the art not only because they depend on claims 1 and 9, but also because they contain the patentable subject matter per se.

Reconsideration and allowance of the present application is most respectfully requested.

Should the Examiner require or consider it advisable that the specification, claims and/or drawings be further amended or corrected in formal respects in order to place this case in condition for final allowance, then it is respectfully requested that such amendments or corrections be carried out by Examiner's Amendment, and the case be passed to issue. Alternatively, should the Examiner feel that a personal discussion might be helpful in advancing this case to allowance, he is invited to telephone the undersigned (at 631-549-4700).

Respectfully submitted,



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